# **Tuesday 28<sup>th</sup> April**

## **L.k: To recognise equivalent fractions using multiplying and dividing**

Today, we will be looking at working out equivalent fractions using multiplying and dividing. Yesterday, we focused on how the equivalent fractions might look if we doubled or halved them and found that, whatever we do to the denominator we must also do to the numerator and vice-versa.

I have the fraction $\frac{3}{4}$. I know that my equivalent fraction has the denominator of 12. So, our equation looks like this:

$$\frac{3}{4} = \frac{?}{12}$$

When we look at our denominators (4 and 12), we know that they are both in the four times table. There are also three 4's in 12. So, if we multiply 4 by 3 we will get 12.

$$\frac{?}{12} = \frac{?}{12}$$

We had a three in the top box, so we multiply that by 3 as well (as whatever we do to the denominator, we MUST do to the numerator as well).

$$\frac{9}{12} = \frac{9}{12}$$

So we have used our knowledge of multiplication to work out that $\frac{3}{4} = \frac{9}{12}$.

**Try these starter questions:**

1) $\frac{1}{2} = \frac{}{6}$

2) $\frac{3}{4} = \frac{}{12}$

3) $\frac{7}{8} = \frac{}{40}$

4) $\frac{5}{8} = \frac{}{24}$

5) $\frac{3}{9} = \frac{}{81}$

6) $\frac{2}{8} = \frac{10}{}$

7) $\frac{1}{7} = \frac{11}{}$

8) $\frac{4}{11} = \frac{16}{}$

9) $\frac{6}{} = \frac{36}{42}$

**Reasoning and Problem Solving**

**One Star**

1) Using your numicon blocks or diagrams, can you show equivalent fractions to the fractions below?
   A) 1/4
   b) 1/3
   c) 7/10
2) I have 2/3 of a bar of chocolate. My friend eats 4/6 of his bar of chocolate. Do we eat an equivalent amount?
3) I eat 3/4 of a packet of crisps. My friend eats an equivalent amount, but his numerator is 12. What is his equivalent fraction?

**Two Star**

1) James says "I think 1/5 is equivalent to 2/10." Is James correct? Show this in your book using diagrams.
2) Phil says "4/5 MUST be equivalent to 8/5!" Is Phil correct? Can you explain the doubling method to Phil so that he can get the answer right next time?
3) I ate 2/3 of a pizza and my friend ate 3/9 of a pizza. Did we eat an equivalent amount of pizza?
   If not, how much would my friend have had to eat as a fraction to eat an equivalent amount to me?

**Three Star**

1) James says "To find an equivalent fraction to 1/4, I can just double the numerator and denominator or halve the numerator and denominator."
   Is James correct? Why do you think this?
2) "1/4 is equivalent to 3/32." Is this person correct? What mistake have they made?
   Can you find 3 fractions that are equivalent to 1/4?
3) 200 cans of Coke are dropped from a lorry. 3/5 of the cans explode, 1/10 of the cans are dented and the rest are still ok. How many of the cans exploded and how many were dented?
   EXTENSION: If the shopkeeper sells each can for £1, how much money has he made if he doesn't sell the exploded or dented cans?
4) Two cars are sold at auction. Each sells for £200. Owner A gets 4/5 of the cars price given to him and Owner B gets 7/10 of the price. Did they same amount of money and were the fractions equivalent?